TECHNICAL MEMORANDUM

Date:	January 16, 2015	**Project No.:**	013-1646-015.400.1
To:	William Ernst	**Company:**	The Boeing Company
From:	Denise Carscadden		
cc:	Tyler Jeffcoat and Mary Jo Donnelly (Boeing), Kent Angelos, Ted Norton, and Mike Lumpkin (Golder)	**Email:**	dcarscadden@golder.com
RE:	**BUILDING 2-88 HERMLE MACHINE FOUNDATION COMPLETION**		

1.0 INTRODUCTION

The Boeing Company (Boeing) installed a foundation for a new Hermle machine in the southeast portion of Building 2-88 at Plant 2 from October 22 to November 6, 2014 (Figure 1). The work included saw cutting and removing the existing concrete slab, excavating subgrade materials, placing base gravel as needed, and pouring concrete for the new foundation.

The construction area is located within the Resource Conservation and Recovery Act (RCRA) unit, Solid Waste Management Unit (SWMU) 2-89.68, Reclamation Yard (Figure 1). The Reclamation Yard was used from 1942 to 1996. The yard consisted of approximately 8 acres of pavement located in the southeastern corner of the South Yard Area. The reclamation yard stored recyclable materials, which included aluminum, brass, steel, and copper shavings generated from cutting operations. The Reclamation Yard also recycled a variety of products including film, bulk metal, empty drums, and paint. Coolant and oils were often associated with the scrap metal. The area, including the new foundation, was remediated and redeveloped in the late 1990s including construction of the 2-88 building.

2.0 EXCAVATION

The excavation was completed to install the new foundation. The foundation for the Hermle machine measured approximately 28 feet long by 17.5 feet wide by 3 feet thick. The excavation extended to a depth of approximately 4 to 5 feet below ground surface (bgs) for a total of approximately 100 cubic yards of concrete, base gravel, fill, and subgrade soil. Soil sampling was not required for waste characterization and disposition based on the analytical data. The excavated concrete and soil materials were segregated into tub skids, transferred to a stockpile, and placed in roll off containers prior to transport offsite. Groundwater was not encountered during the excavations, as the groundwater surface at Plant 2 is typically 10 to 12 feet bgs.

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3.0 CONSTRUCTION AND SUPPORT ACTIVITIES

Construction support and sampling activities were conducted in accordance with Golder Associates Inc.'s (Golder's) August 2013 Plant 2 General Construction Health and Safety Plan (HASP) (Golder 2013[1]), and Boeing's environmental, health, and safety requirements.

The support activities included visual monitoring of the concrete slab and soil removal. The work area and excavated materials were monitored for volatile organic compounds (VOCs) using a photoionization detector (PID) and Dragger tubes during sawcutting, slab removal, and excavation. The excavated materials were stockpiled on plastic outside Building 2-88 and properly managed for characterization and disposal.

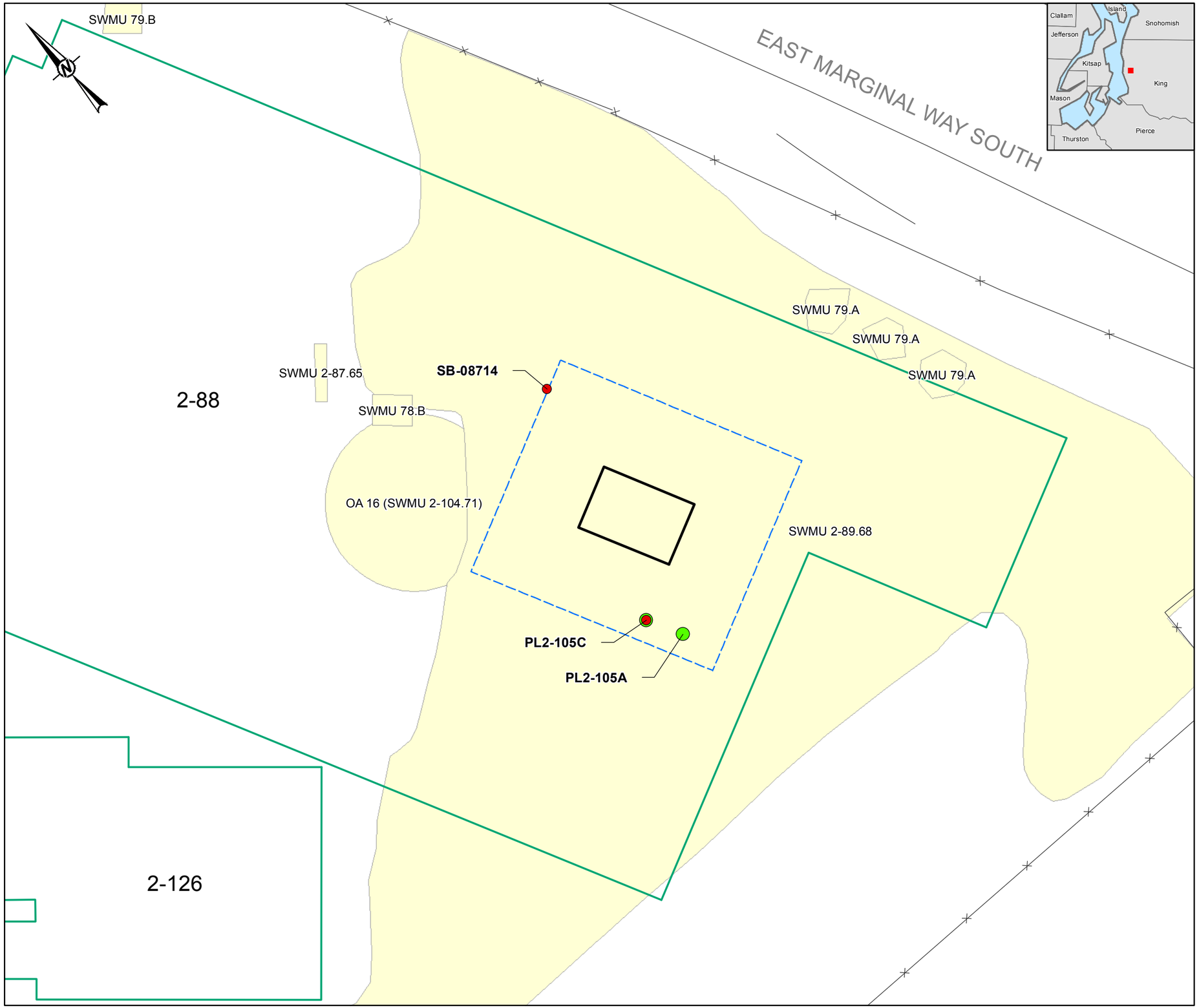
No impacted pavement or soils were observed or detected by the field monitoring. Air monitoring results from the PID and Dragger tubes were negative. Personal air monitoring results were below the method detection limit. No construction sampling of soil or groundwater was necessary based on the analytical data and field monitoring.

List of Figures

DC/TN/tp

[1]Golder Associates Inc. Golder. 2013. Boeing Plant 2 / Support Services Health, Safety and Environment Plan. Boeing Plant 2. August.

FIGURE



LEGEND

- Historical Soil Sample Location
- Historical Groundwater Sample Location
- Buildings Outline
- Base Features
- Location of Interest
- 25 ft Buffer Query Area
- RCRA Units (AOC, OA & SWMU)

0 15 30 60
Feet

REFERENCE(S)
1. GOLDER ASSOCIATES INC. (SAMPLE LOCATIONS)
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 FEET

CLIENT
BOEING
SEATTLE, KING COUNTY, WA

PROJECT
BOEING/PLANT 2 CMS & CONST SUPPORT

TITLE
HISTORICAL SOIL AND GROUNDWATER SAMPLE LOCATIONS HERMLE MACHINE FOUNDATION IN BUILDING 2-88

CONSULTANT
Golder Associates

YYYY-MM-DD	2014-12-03
DESIGNED	-
PREPARED	TH
REVIEWED	DC
APPROVED	DC

PROJECT NO.	CONTROL	REV.	FIGURE
0131646014	500	B	1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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